In the Claims

1-57 (canceled).

58 (new). A composition of matter comprising:

a) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response;

b) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid is not ALVAC;

c) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid does not comprise a polynucleotide encoding an antigen and both the T-cell and antibody responses are induced to the at least one co-administered antigen;

d) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid is not ALVAC, the viral capsid does not comprise a polynucleotide encoding an antigen, and both the T-cell and antibody responses are induced to the at least one co-administered antigen;

e) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid comprises a polynucleotide encoding a further

antigen, the T-cell response being induced to the encoded antigen and the antibody response being induced to the co-administered antigen;

f) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid comprises a polynucleotide encoding a further antigen, the T-cell response being induced to the encoded antigen and the antibody response being induced to the co-administered antigen and wherein the encoded antigen and the co-administered antigen are homologous;

g) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid comprises a polynucleotide encoding a further antigen, the T-cell response being induced to the encoded antigen and the antibody response being induced to the co-administered antigen and wherein the encoded antigen and the co-administered antigen are homologous and share at least one common $CD4^+$ or $CD8^+$ epitope; or

h) a viral capsid substantially incapable of replication in a patient and at least one antigen for co-administration with said capsid and against which it is desired to obtain an immune response, said composition inducing both an antibody response against the co-administered antigen and a T-cell response, wherein the viral capsid comprises a polynucleotide encoding a further antigen, the T-cell response being induced to the encoded antigen and the antibody response being induced to the co-administered antigen and wherein the encoded antigen and the co-administered antigen are heterologous.

59 (new). The composition of matter according to claim 58, wherein said at least one antigen and the viral capsid are formulated separately or together and, when formulated separately, the composition being adapted to be administered as either separate formulations or as a mixture thereof.

60 (new). The composition of matter according to claim 58, wherein the viral capsid is a viral vector.

61 (new). The composition of matter according to claim 58, wherein the T-cell response is protective.

62 (new). The composition of matter according to claim 58, wherein the T-cell response is induced to the co-administered antigen by the presence of the viral capsid.

63 (new). The composition of matter according to claim 58, wherein the antibody response induced in the presence of the vector is greater than that induced by the co-administered antigen alone.

64 (new). The composition of matter according to claim 58, wherein said capsid is: 1) a poxvirus; 2) an adenovirus; 3) MVA or NYVAC; 4) an orthopox virus; or 5) a fowlpox virus; and said co-administered antigen is derived from: 1) *M. tuberculosis*; 2) *Plasmodium sp;* 3) influenza virus; 4) HIV; 5) Hepatitis B or C virus; 6) Cytomegalovirus; 7) Human papilloma virus; 8) bacteria; 9) leishmania parasites; or 10) derived from a tumor.

65 (new). A method for inducing an immune response against at least one antigen in an animal in need thereof, the method comprising the steps of administering a viral capsid incapable of replication in the animal and at least one antigen, wherein the at least one antigen is co-administered with the capsid.

66 (new). The method according to claim 65, wherein the immune response comprises a combined T-cell and antibody response to the at least one co-administered antigen.

67 (new). The method according to claim 65, wherein the immune response is a humoral response.

68 (new). The method according to claim 65, wherein the capsid comprises a polynucleotide encoding a further antigen.

69 (new). The method according to claim 68, wherein the encoded antigen and the co-administered antigen are homologous and the immune response comprises a combined T-cell and antibody response to the antigen.

70 (new). The method according to claim 68, wherein the encoded further antigen and the co-administered antigen are heterologous and the immune response to the at least one co-administered antigen comprises an antibody response, the encoded antigen inducing a T-cell response thereto.

71 (new). The method according to claim 65, wherein the viral capsid and the at least one antigen are administered substantially co-temporaneously.

72 (new). The method according to claim 65, wherein said method induces an antigen-specific T cell response to a viral capsid comprising a poxvirus-encoded antigen, the encoded antigen being heterologous to the poxvirus and comprising a source of $CD4^+$ and $CD8^+$ epitopes and antibodies to the co-administered antigen.

73 (new). A method of generating an antibody response to an antigen in a vertebrate comprising co-administration, as a mixture, the antigen mixed with an orthopox virus to said vertebrate.

74 (new). The method according to claim 73, wherein the orthopox virus is replication-impaired.

75 (new). The method according to claim 73, wherein the orthopox virus is of the modified vaccinia virus Ankara strain or NYVAC strain or a derivative of either.

76 (new). The method according claim 73, wherein the orthopox virus encodes the co-administered antigen or a homologous sequence.

77 (new). The method according to claim 73, wherein the orthopox virus encodes an antigen that is heterologous to the co-administered antigen.

78 (new). The method according to claim 73, wherein the vertebrate is a primate.

79 (new). The method according to claim 73, wherein the orthopox virus encodes a heterologous polypeptide antigen encoding a $CD4^+$ and / or $CD8^+$ T cell epitope against which the vertebrate has a pre-existing specific cellular immune response that was generated by a means other than by immunization with the said recombinant orthopox virus.